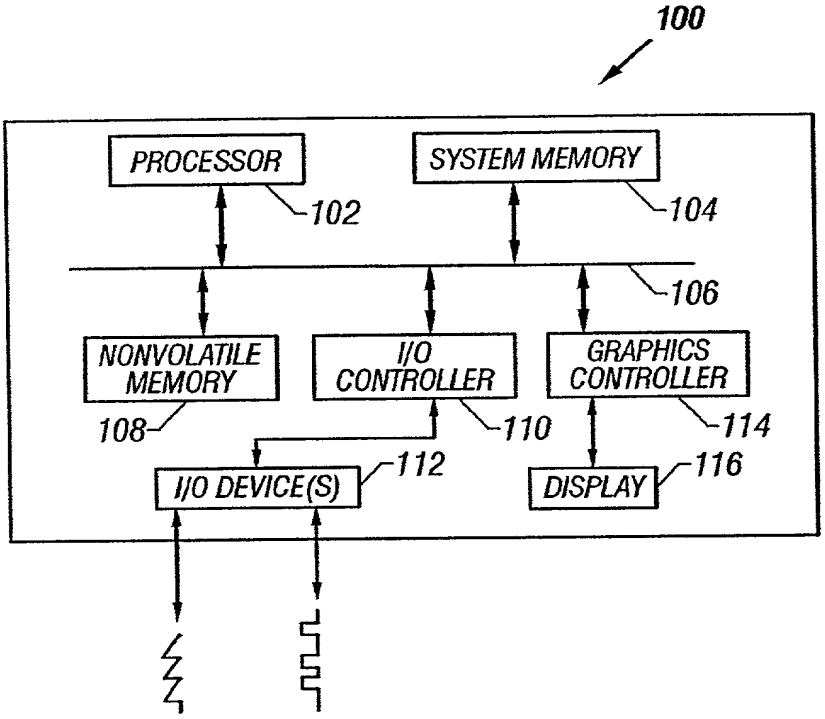
100
PROCESSOR
102
SYSTEM MEMORY
104
106
NONVOLATILE MEMORY
108
I/O CONTROLLER
110
GRAPHICS CONTROLLER
114
I/O DEVICE(S)
112
DISPLAY
116

FIG.1

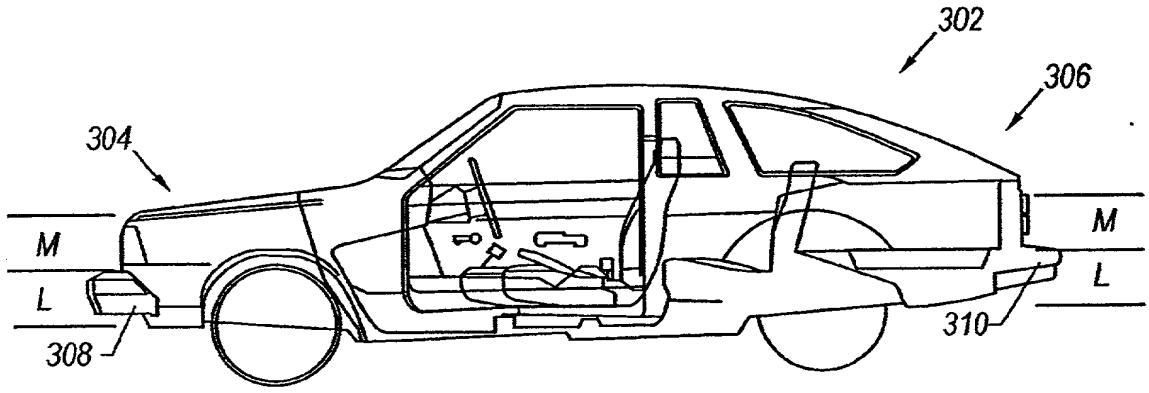
302
306
304
M
L
308
M
L
310

FIG.3

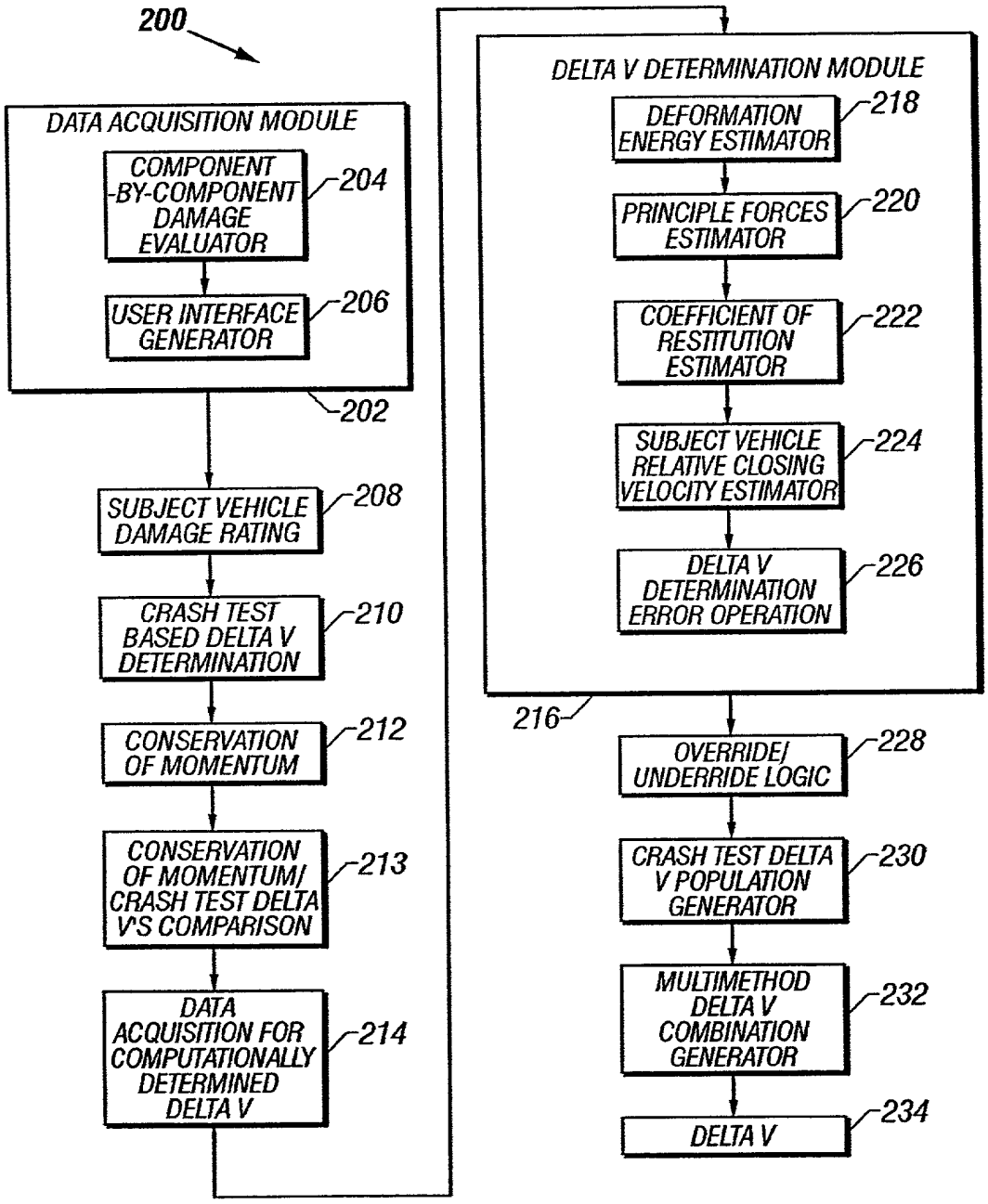
200
DATA ACQUISITION MODULE
COMPONENT -BY-COMPONENT DAMAGE EVALUATOR
204
USER INTERFACE GENERATOR
206
202
SUBJECT VEHICLE DAMAGE RATING
208
CRASH TEST BASED DELTA V DETERMINATION
210
CONSERVATION OF MOMENTUM
212
CONSERVATION OF MOMENTUM/ CRASH TEST DELTA V'S COMPARISON
213
DATA ACQUISITION FOR COMPUTATIONALLY DETERMINED DELTA V
214
DELTA V DETERMINATION MODULE
DEFORMATION ENERGY ESTIMATOR
218
PRINCIPLE FORCES ESTIMATOR
220
COEFFICIENT OF RESTITUTION ESTIMATOR
222
SUBJECT VEHICLE RELATIVE CLOSING VELOCITY ESTIMATOR
224
DELTA V DETERMINATION ERROR OPERATION
226
216
OVERRIDE/ UNDERRIDE LOGIC
228
CRASH TEST DELTA V POPULATION GENERATOR
230
MULTIMETHOD DELTA V COMBINATION GENERATOR
232
DELTA V
234

FIG.2

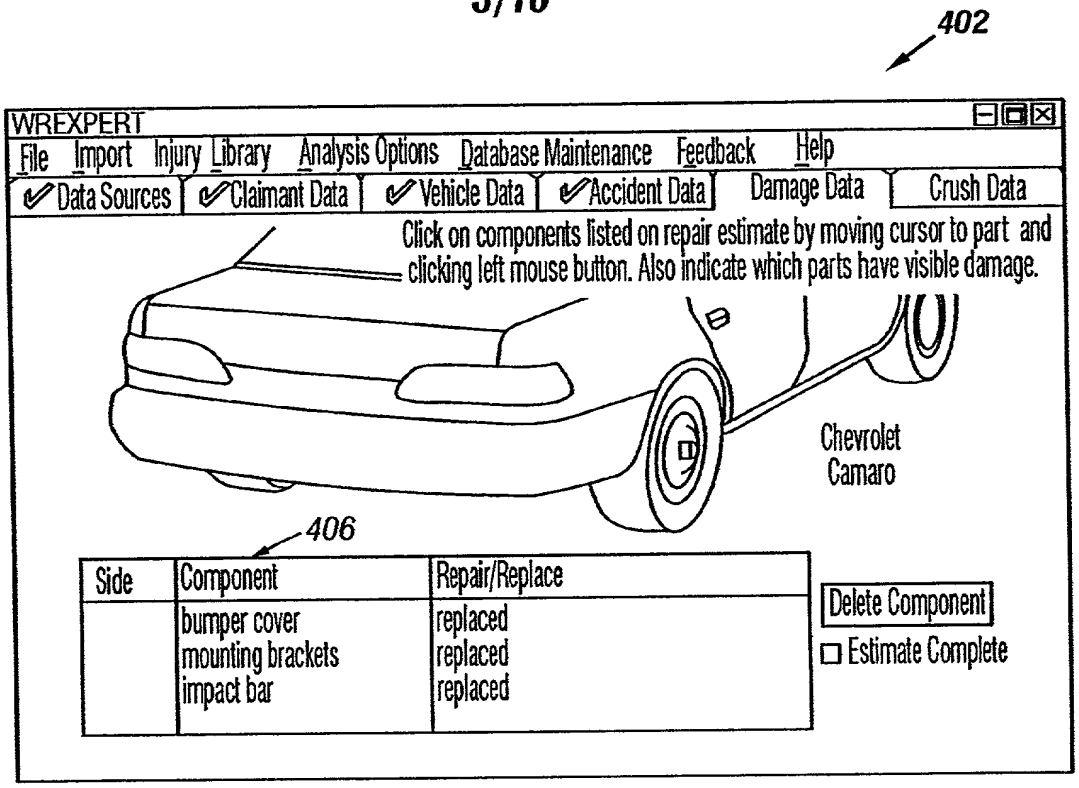
402
WREXPERT
File Import Injury Library Analysis Options Database Maintenance Feedback Help
Data Sources
Claimant Data
Vehicle Data
Accident Data
Damage Data
Crush Data
Click on components listed on repair estimate by moving cursor to part and clicking left mouse button. Also indicate which parts have visible damage.
Chevrolet Camaro
406
Side
Component
Repair/Replace
bumper cover
mounting brackets
impact bar
replaced
replaced
replaced
Delete Component
Estimate Complete

FIG.4A

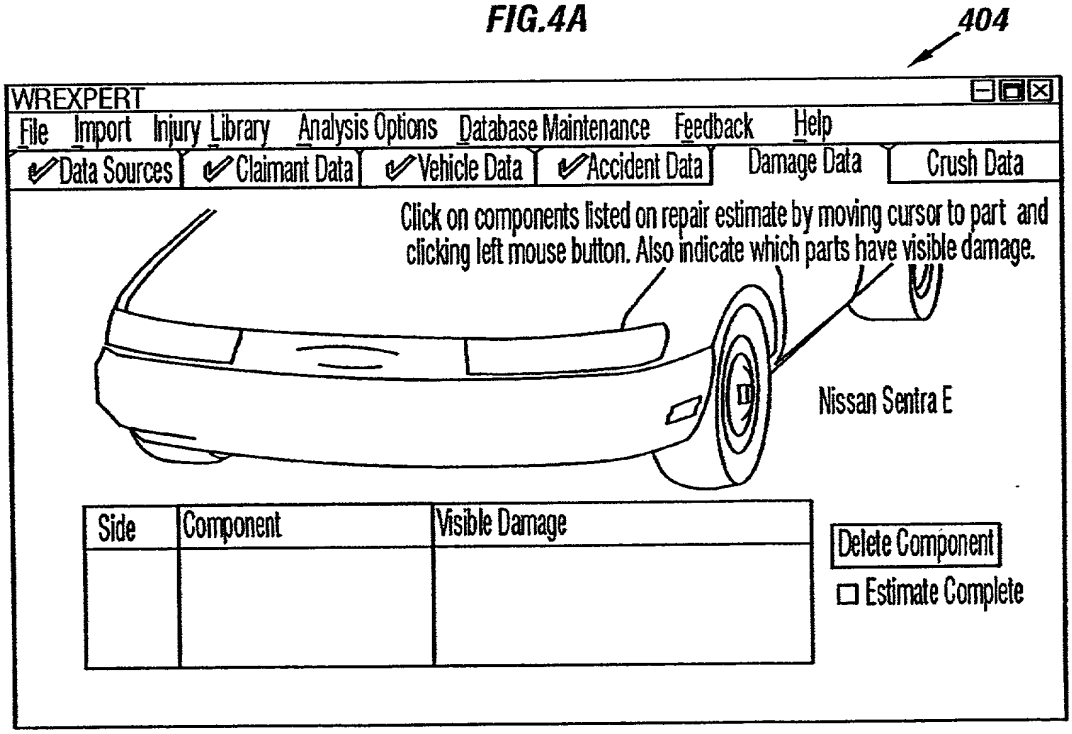
404
WREXPERT
File Import Injury Library Analysis Options Database Maintenance Feedback Help
Data Sources
Claimant Data
Vehicle Data
Accident Data
Damage Data
Crush Data
Click on components listed on repair estimate by moving cursor to part and clicking left mouse button. Also indicate which parts have visible damage.
Nissan Sentra E
Side
Component
Visible Damage
Delete Component
Estimate Complete

FIG.4B

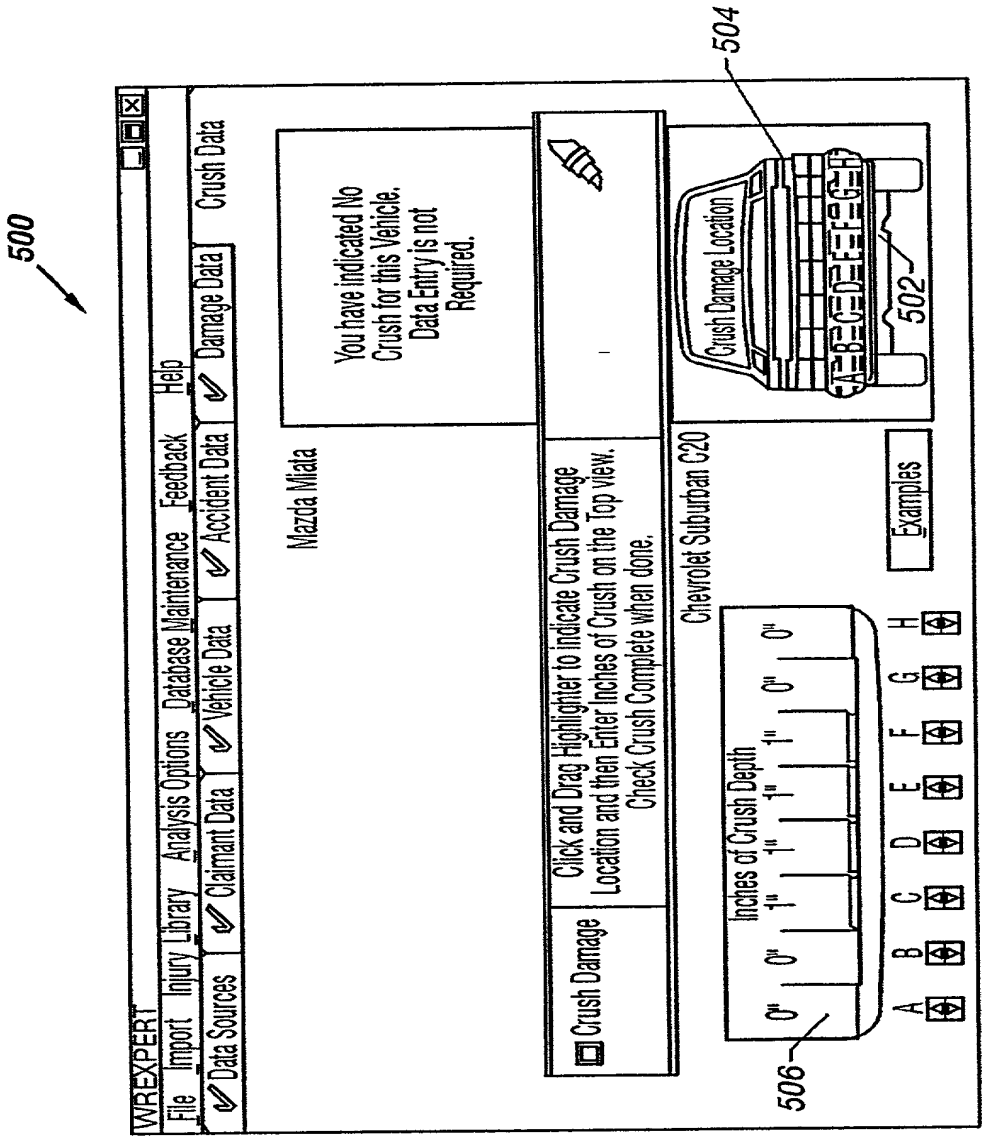
500
504
502
506
WREXPERT
File Import Injury Library Analysis Options Database Maintenance Feedback Help
Data Sources
Claimant Data
Vehicle Data
Accident Data
Damage Data
Crush Data
Mazda Miata
You have indicated No Crush for this Vehicle. Data Entry is not Required.
Crush Damage
Click and Drag Highlighter to indicate Crush Damage Location and then Enter Inches of Crush on the Top view. Check Crush Complete when done.
Chevrolet Suburban 020
Crush Damage Location
Examples
Inches of Crush Depth
0" 0" 1" 1" 1" 1" 0" 0"
A B C D E F G H

FIG.5

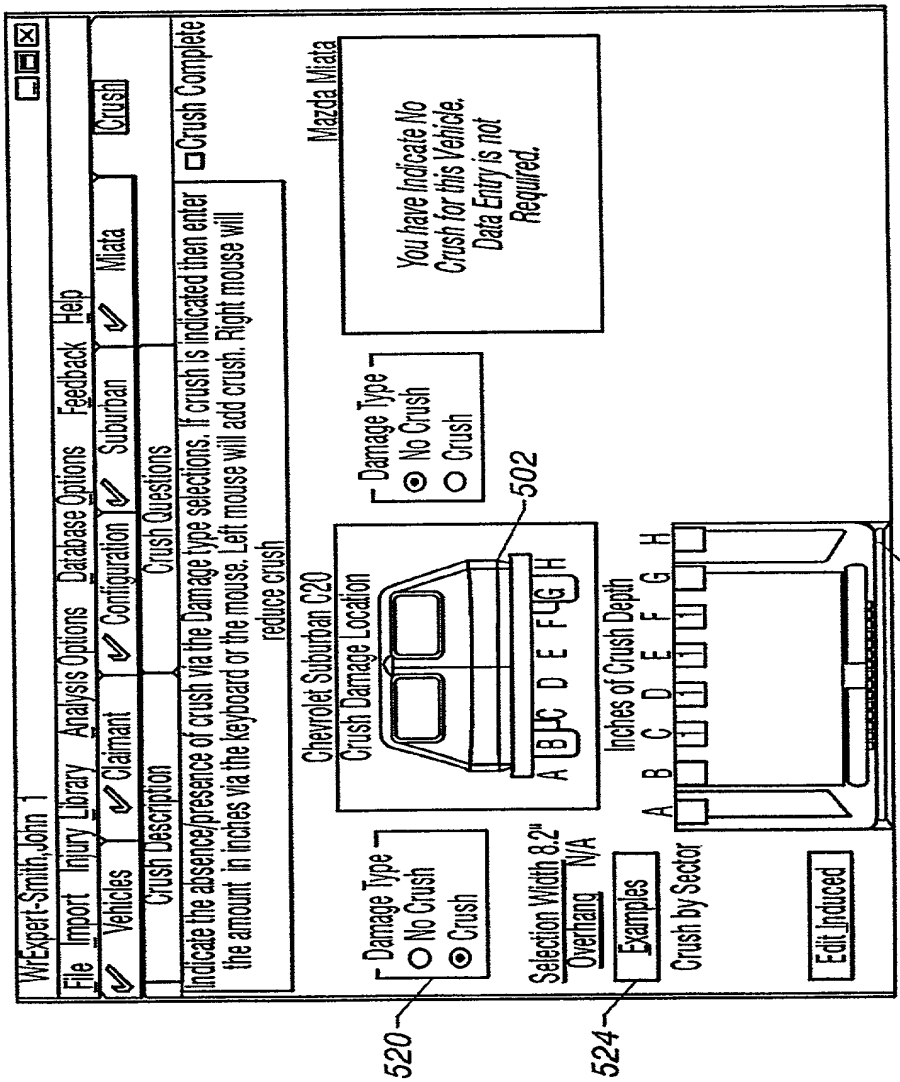
WrExpert-Smith,John 1
File Import Injury Library Analysis Options Database Options Feedback Help
Vehicles
Claimant
Configuration
Suburban
Miata
Crush
Crush Description
Crush Questions
Crush Complete
Indicate the absence/presence of crush via the Damage type selections. If crush is indicated then enter the amount in inches via the keyboard or the mouse. Left mouse will add crush. Right mouse will reduce crush
Mazda Miata
You have Indicate No Crush for this Vehicle. Data Entry is not Required.
Chevrolet Suburban C20
Crush Damage Location
Damage Type
No Crush
Crush
502
A B C D E F G H
Damage Type
No Crush
Crush
Selection Width 8.2"
Overhang N/A
Examples
Crush by Sector
Inches of Crush Depth
A B C D E F G H
Edit Induced
520
524
522

FIG.5A

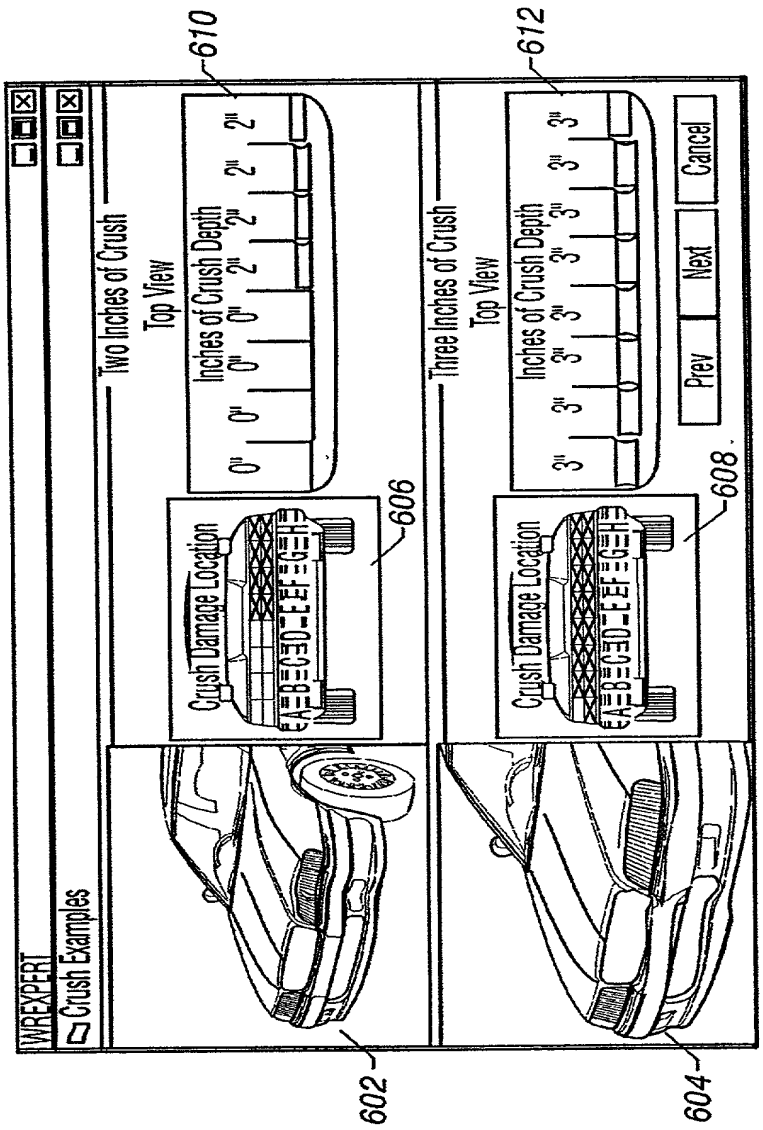
WREXPERT
Crush Examples
Two Inches of Crush
Top View
Inches of Crush Depth
0" 0" 0" 0" 2" 2" 2" 2" 2"
Crush Damage Location
Three Inches of Crush
Top View
Inches of Crush Depth
3" 3" 3" 3" 3" 3" 3" 3" 3"
Crush Damage Location
Prev
Next
Cancel
602
604
606
608
610
612

FIG.6

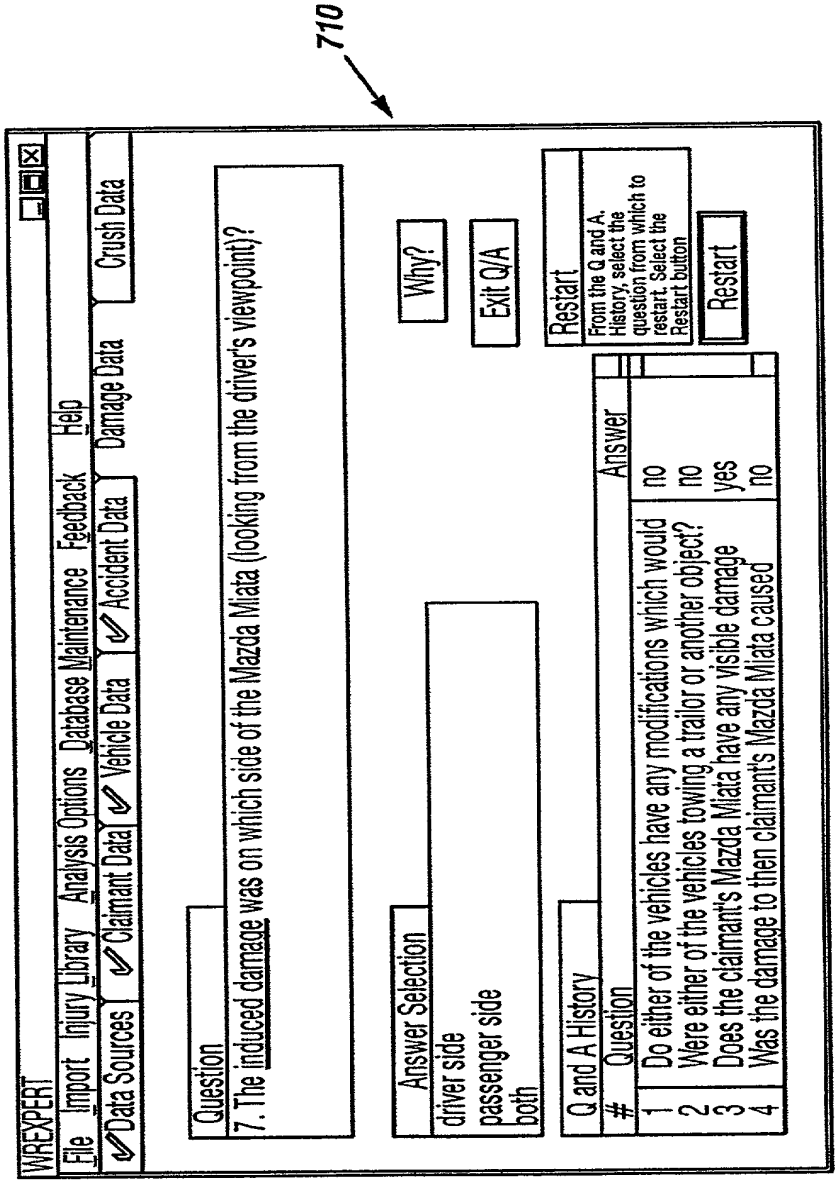
710
WREXPERT
File Import Injury Library Analysis Options Database Maintenance Feedback Help
Data Sources
Claimant Data
Vehicle Data
Accident Data
Damage Data
Crush Data
Question
7. The induced damage was on which side of the Mazda Miata (looking from the driver's viewpoint)?
Answer Selection
driver side
passenger side
both
Why?
Exit Q/A
Restart
From the Q and A. History, select the question from which to restart. Select the Restart button
Restart
Q and A History
Question
Answer
1 Do either of the vehicles have any modifications which would no
2 Were either of the vehicles towing a trailor or another object? no
3 Does the claimant's Mazda Miata have any visible damage yes
4 Was the damage to then claimant's Mazda Miata caused no

FIG.7A

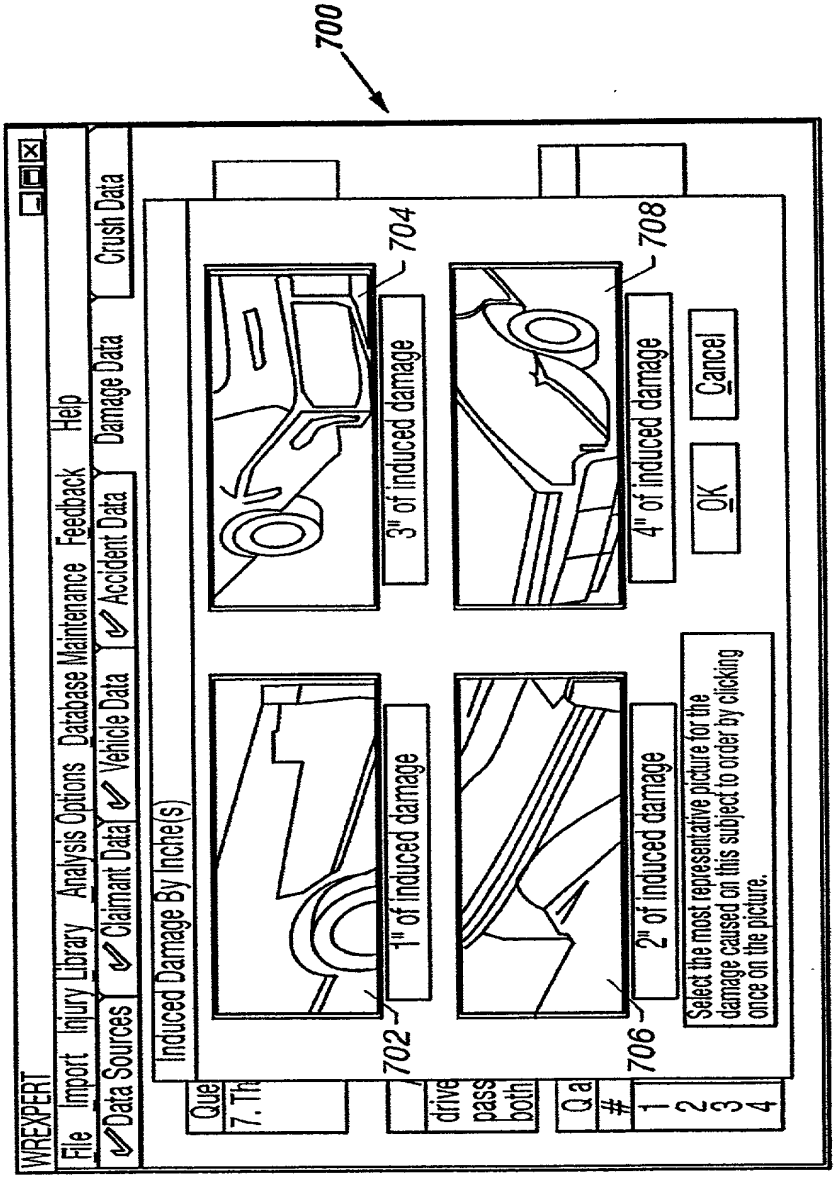
700
WREXPERT
File Import Injury Library Analysis Options Database Maintenance Feedback Help
Data Sources Claimant Data Vehicle Data Accident Data Damage Data Crush Data
Induced Damage By Inche(s)
704
3" of induced damage
708
4" of induced damage
OK
Cancel
1" of induced damage
2" of induced damage
Select the most representative picture for the damage caused on this subject to order by clicking once on the picture.
702
706
Que
7. Th
drive
pass
both
Qa
#
1
2
3
4

FIG.7B

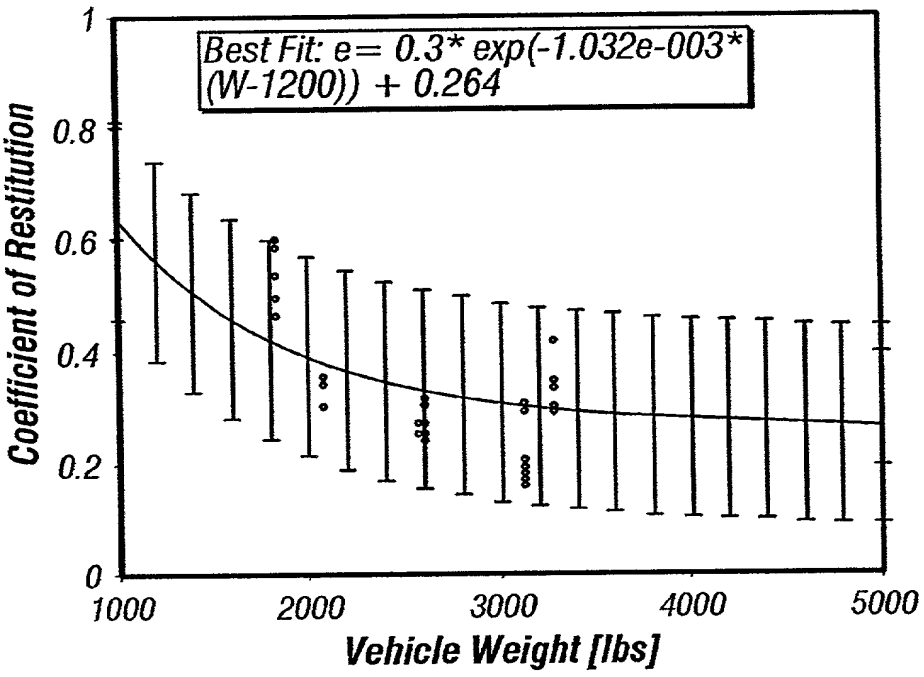
Best Fit: e= 0.3* exp(-1.032e-003* (W-1200)) + 0.264
Coefficient of Restitution
1
0.8
0.6
0.4
0.2
0
1000
2000
3000
4000
5000
Vehicle Weight [lbs]

FIG.8

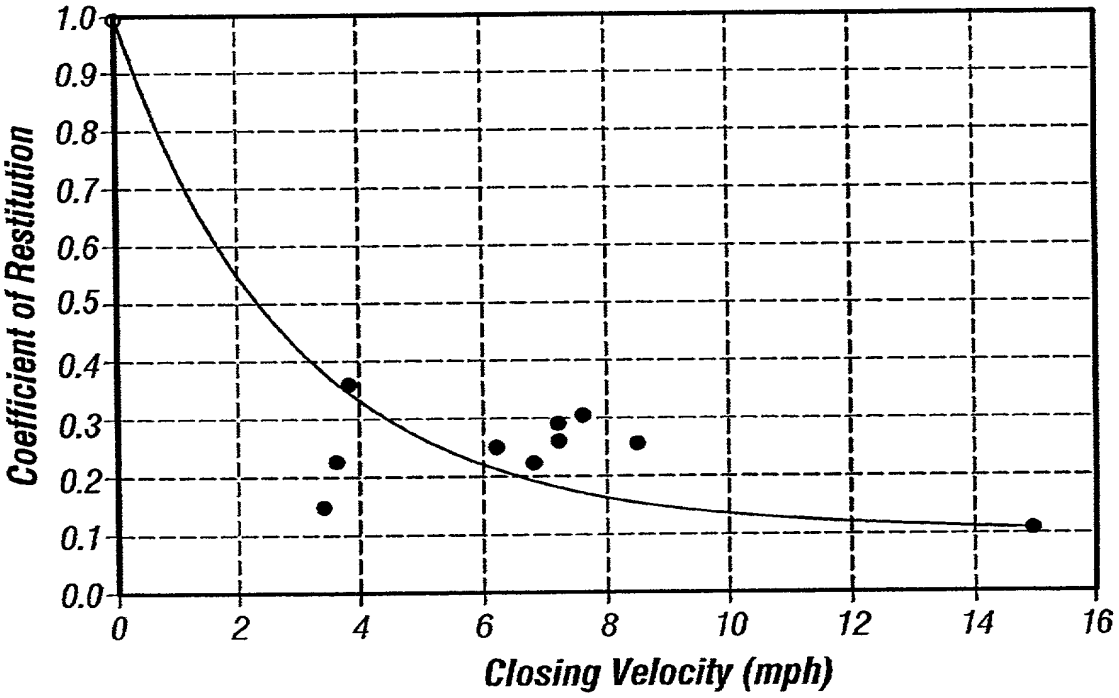
Coefficient of Restitution
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0
2
4
6
8
10
12
14
16
Closing Velocity (mph)

FIG.9

10/10

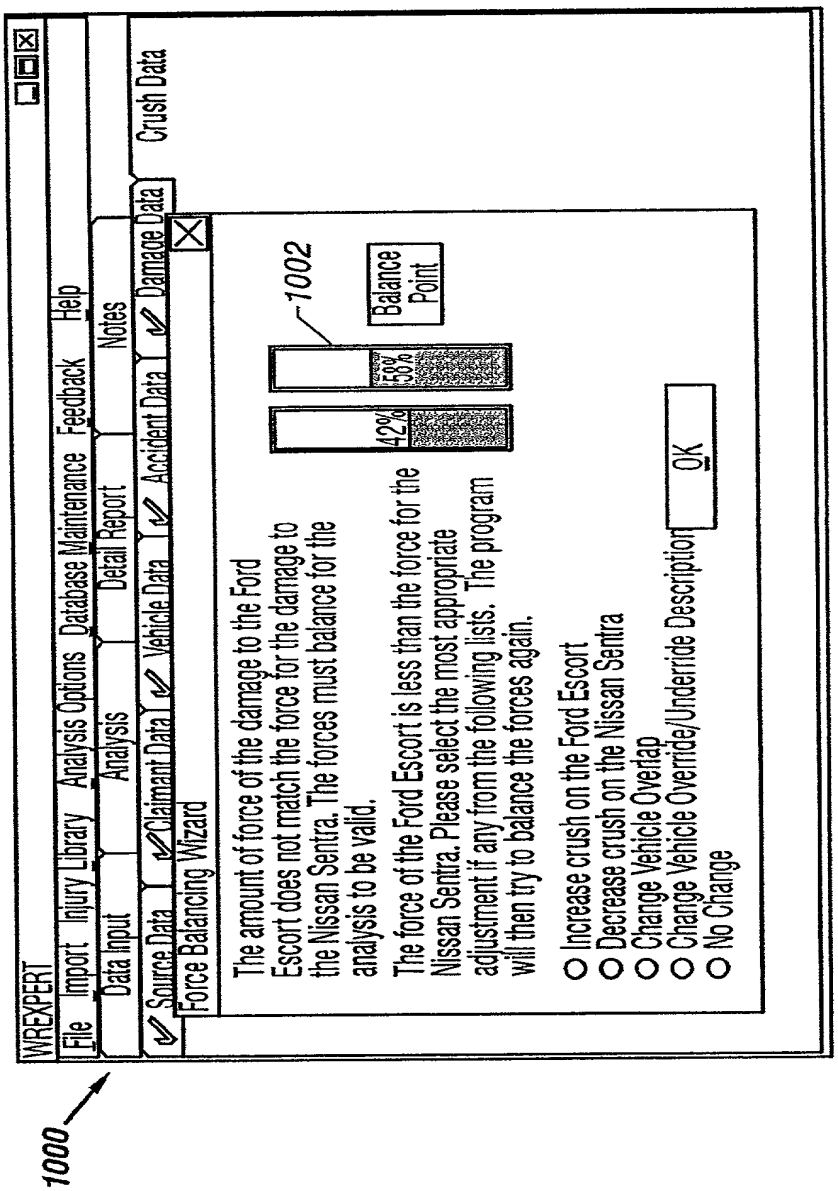
1000
WREXPERT
File Import Injury Library Analysis Options Database Maintenance Feedback Help
Data Input Analysis Detail Report Notes
Source Data Claimant Data Vehicle Data Accident Data Damage Data Crush Data
Force Balancing Wizard
The amount of force of the damage to the Ford Escort does not match the force for the damage to the Nissan Sentra. The forces must balance for the analysis to be valid.
The force of the Ford Escort is less than the force for the Nissan Sentra. Please select the most appropriate adjustment if any from the following lists. The program will then try to balance the forces again.
Increase crush on the Ford Escort
Decrease crush on the Nissan Sentra
Change Vehicle Overlap
Change Vehicle Override/Underride Description
No Change
OK
1002
42%
58%
Balance Point

FIG.10